

Abstract of the Disclosure

An intelligent caching router (ICR) balances the cost-saving and functionality-enhancing benefits of the application-service-provider (ASP) model of software delivery against the inherent risks of relying on networked computing. In so doing, the ICR makes the ASP model practical for services that require extremely high levels of reliability and availability. The ICR is inserted functionally between a (thin) client and the network (i.e., Internet, intranet or extranet) and performs certain operations, including the logging of "mission-critical" application state data; network connectivity monitoring; traditional backup routing features; mission-critical server emulation; and server resynchronization upon reconnection. When networking problems are detected, the ICR initially takes steps to try and restore connectivity. In taking such actions, the ICR is largely behaving as a traditional intelligent network router. However, when such traditional backup routing fails, the ICR begins to act as a surrogate for the unreachable remote server on which the application service depends. In particular, for the application subset that the service providers have deemed "mission critical," the ICR makes application-specific responses to permit operations to continue, and logging the requests and response it has issued. When the communications link is restored, the ICR will resynchronize with the remote server and then return to its normal "passive" operation. The invention is particularly suited to electronic commerce transactions, since accounting, crediting or debiting may be considered critical transactions, whereas other forms of updating, reporting, and the like are typically less critical. One disclosed example shows the role of an ICR in a point-of-sale application.